CLAIMS

Having thus described the invention, what is claimed is:

1. An apparatus for scheduling the movement of information units from a plurality of sources to an output destination based on information stored about each of the plurality of sources, the apparatus comprising:

at least one time-based calendar which handles some of the information units based on the information stored about the plurality of sources based on a bandwidth service;

at least one time-independent calendar which handles other of the information units in a flow queue based on information stored in the flow queue, said other calendar providing a sequence of frames awaiting being moved and a weighting factor and a size of frame, where, after a frame is moved using the other calendar, a new position for that flow queue in the other calendar is calculated based on its weighting factor and the size of its frame;

a timer which periodically generates a signal which moves a single information unit to the output destination, with the single information unit chosen from the first, second and third calendars based on stored rules.

2. A method of selecting during any processing cycle one processed information unit from a plurality of information units ready at that time for transmission from a network processor toward a data transmission network, the method comprising the steps of:

receiving priority information about each of the information units ready for processing;

placing each information unit ready for transmission into one of several prioritized queues based on the priority information associated with each processing unit, one of the queues being time-based and an other one of the queues being time independent;

selecting one of the queues to service at each time cycle based on a stored set of rules and selecting one of the information units from the selected queue according to an algorithm, said selection from a weighted fair queue including calculating a new position in the weighted fair queue based on the size of the packet and the weighting factor for the information unit selected; and

sending the selected information unit from the network.

3. A method including the steps of Claim 2 wherein the step of providing a back pressure indicator when the output for a given queue is not empty, preventing that queue from being selected during the time interval.